

Attorney Docket No. 21012-0002-U1
Application No.: 10/665,790

D) AMENDMENTS TO THE DRAWINGS

None.

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E) REMARKS

This Response is filed in response to the Office Action dated October 26, 2005.

Upon entry of this response, claims 1-27 will be pending in this Application.

In the outstanding Office Action, the Examiner rejected claims 1-11 and 14-21 under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art in view of Hartzell (U.S. Patent No. 4,666,602); objected to claims 12-13 as being dependent upon a rejected base claim; and allowed claims 22-27.

Rejection under 35 U.S.C. 103

The Examiner rejected claims 1-11 and 14-21 under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art (APA) in view of Hartzell (U.S. Patent No. 4,666,602) hereafter referred to as "Hartzell."

Specifically, the Examiner stated that

APA is figure 1 of this application. Damage results when foreign objects become lodged between the roll and the screen. Hartzell solves this problem by disclosing similar apparatus including the use of a spring to bias a roll against a screen; see figures 4-6. In order to prevent apparatus damage, it would have been obvious for one of ordinary skill in the art to modify APA by providing a spring biasing means for the roll, taught to be desirable by Hartzell. The remaining limitations would have been obvious design choices only. For example, the type of spring biasing means used would have been an obvious modification to one skilled in the art once the spring of Hartzell was known. Applicants respectfully traverse the rejection of claims 1-11 and 14-21 under 35 U.S.C. § 103(a).

The following principle of law applies to all Section 103 rejections. MPEP 2143.03 provides "To establish prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)." [emphasis added] That is, to have any expectation of rejecting the claims over a single reference or a combination of references, each limitation must be taught somewhere in the applied prior art. If limitations are not found in any of the applied prior art, the rejection cannot stand. In this case, the applied prior art references clearly do not arguably teach some limitations of the claims.

Hartzell, as understood, is directed to a manure separator including a flume and chain conveyor arrangement to initially separate liquid and solid waste. Solid waste leaving the discharge end of the flume is received by a separator press roll mechanism to further remove moisture from the solid waste. The separator includes a rotated perforated drum and an oppositely rotated press roll that is yieldably urged against the rotating surface of the drum to

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press or squeeze liquid from the solid waste.

In contrast, claim 1, recites a rotatable roller press and brush assembly for use within a separator comprising: a main arm having opposed ends; a main axle configured and disposed to rotatably carry the main arm between the ends; at least one brush arm attached to and extending away from the main arm, each of the at least one brush arm being connected to a brush adjacent the end of the brush arm opposite the main arm; at least one roller arm having a first end and a second end, the at least one roller arm being rotatably carried between the first end and the second end adjacent at least one of the ends of the main arm; a roller being rotatably carried adjacent the first end of the at least one roller arm; and a resilient force device connected to at least one roller arm and the main arm for urging the roller away from the main axle, the resilient force being limited for preventing a foreign object entering the separator during operation of the separator from damaging a portion of the separator upon the foreign object being juxtaposed between the roller and the portion of the separator. (emphasis added).

In contrast, claim 7 recites a manure separator comprising: a shell; an inlet comprising a slurry supply section for providing a slurry to the separator; a first section within the shell comprising a first screen and a rotating brush assembly, the first section being adjacent to and in fluid communication with the inlet, the brush assembly comprising at least one first brush and at least one arm, each of the at least one first brush being attached to at least one arm, and each of the at least one arm being rotatably carried within the shell adjacent the first screen to direct solid slurry components of the slurry from the first section to a second section; the second section within the shell adjacent to and in fluid communication with the first section, comprising a second screen and a rotating roller press and brush assembly being rotatably carried within the shell adjacent the second screen, the roller press and brush assembly comprising: a main arm having opposed ends; a main axle configured and disposed to rotatably carry the main arm between the opposed ends; at least one brush arm attached to and extending away from the main arm, each of the at least one brush arm being connected to a second brush adjacent the end of the brush arm opposite the main arm; at least one roller arm having a first end and a second end, the roller arm being rotatably carried between the first end and the second end adjacent at least one of the opposed ends of the main arm; a roller being rotatably carried adjacent the first end of the at least one roller arm; and a resilient force device connected to at least one roller arm and the main arm for urging the roller away from the main axle, the resilient force being limited for preventing a foreign object entering the second section during operation of the separator from damaging the second screen upon the foreign object being juxtaposed between the roller and the second screen; a driving means to urge rotational movement of the brush assembly and the roller press and brush assembly; a sump in fluid communication with the first section and the second section for draining liquid slurry components of the slurry from the first section and the second section; and a solids discharge section in communication with the second section for discharging solid slurry components of the slurry from the second

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section. (emphasis added).

In contrast, claim 17 is directed to a manure separator comprising: a shell; a weir box in fluid communication with the shell for providing influent to the separator; a first section within the shell in fluid communication with the weir box comprising a first screen and a rotating brush assembly, the brush assembly comprising a plurality of first brushes and a plurality of arms, each first brush of the plurality of first brushes being attached to an arm of the plurality of arms, and each arm of the plurality of arms being rotatably carried by a first main axle mounted in the shell adjacent the first screen, each arm of the plurality of arms having a first central axis, and each first brush of the plurality of brushes having a first angle in the range of about 30 degrees to about 60 degrees between the first central axis and the plurality of first brushes away from a direction of rotational travel of the plurality of first brushes for directing solid influent from the first section to the second section; a second section within the shell adjacent to and in fluid communication with the first section, comprising a second screen and a rotating roller press and brush assembly, the roller press and brush assembly comprising: a main arm having two ends being rotatably carried by a second main axle mounted in the shell adjacent the second screen; a plurality of brush sub-assemblies attached to and extending away from the main arm, each brush sub-assembly of the plurality of brush sub-assemblies comprising a brush arm having a second central axis and an end opposite the main arm and a second brush attached adjacent the end of the brush arm, each second brush of the plurality of second brushes having a second angle in the range of about 0 degrees to about 45 degrees between the second central axis and the plurality of second brushes in a direction of rotational travel of the plurality of second brushes; a plurality of roller press sub-assemblies comprising a roller sub-assembly arm having a first end, a second end for rotatably carrying a roller adjacent the first end, each of the plurality of roller press sub-assemblies being rotatably carried between the first end and the second end of the roller sub-assembly arm adjacent one of the two ends of the main arm; a spring assembly attached to the roller sub-assembly arm for urging the roller in a direction away from the second main axle, the resilient force being limited for preventing a foreign object entering the second section during operation of the separator from damaging the second screen upon the foreign object being juxtaposed between the roller and the second screen; and a stop screw and a mechanical stop secured to the main arm to adjustably position the roller a predetermined distance from the main axle; a driving means connected to the brush assembly and the main arm for urging the brush assembly and the main arm into a predetermined rotational movement; a sump in fluid communication with the first section and the second section for draining liquid influent from the first section and the second section; and a discharge section in communication with the second section for discharging solid influent from the second section. (emphasis added).

Several of the features recited by Applicants in independent claims 1, 7 and 17 are not taught or suggested by Hartzell. First, Hartzell specifically discloses that it is the resilient

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construction of the press roll, not limitation of spring forces, which prevents damage to the perforated drum surface.

The surface of the press roll is furnished with a resilient material, preferably vulcanized rubber having durometer of between 45 and 50. This surface is provided to deflect upon engagement with any excessively hard objects that could otherwise damage the perforated drum surface. (see column 4, line 64 through column 5, line 1)

In contrast, claims 1, 7 and 17 each recite that it is the limitation of the resilient force exerted by the spring assembly that prevents damage to the portion of the separator (second screen) by a foreign object entering the portion of the separator (the second screen of the second section) during operation of the separator upon the foreign object being juxtaposed between the roller and the portion of the separator.

Second, the springs in Hartzell are preferably adjusted to pull the press roll radially against the drum with a force of approximately 1200 pounds. Applicant asserts that the elevated amount of force with which the springs bias the press roll against the drum in Hartzell does not disclose or suggest that the springs are used to prevent apparatus damage. In fact, it appears that it is only the resilient nature of the Hartzell press roll that prevents damage to the drum despite the significant biasing forces produced by the springs.

Third, the springs, as recited in claims 1, 7 and 17, produce a biasing force in a different manner than that produced in Hartzell. In Hartzell, one end of each of the springs is directly connected to a housing that rotatably secures the drum, the other ends of the springs are connected to the press roll, thus directly biasing the press roll toward the drum. In contrast, each of the springs in the present invention is connected to a roller arm at one end of the spring and to a main arm at the other end of the spring. The roller arm has a pivoting connection between a roller end of the roller arm and an opposite end that is connected to the spring, which spring biases the roller arm to rotate about its pivoting connection to urge the roller end toward the second screen. Additionally, claims 1, 7 and 17 recite that the applied resilient force is limited to prevent damage due to a juxtaposed foreign object, which as previously discussed, is neither taught or suggested by Hartzell.

Furthermore, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination." See Manual of Patent Examining Procedure, 8th Edition (MPEP), Section 2143.01.

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The Examiner is reminded that "[i]f the proposed modification or combination of the prior art would change the principle or operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." See MPEP, Section 2143.01.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

See Manual of Patent Examining Procedure, 8th Edition (MPEP), Section 2143.03.

Neither the admitted prior art separator (see paragraph [0047]) nor Hartzell are directed to springs having a limited resilient force for preventing damage to a separator by a foreign object entering the separator during operation of the separator upon the foreign object being juxtaposed between the roller and the portion of the separator. Therefore, Hartzell teaches away from using a resilient force device as claimed in the present invention.

Therefore, for the reasons given above, independent claims 1, 7 and 17 are believed to be distinguishable from the admitted prior art and Hartzell and therefore are neither anticipated nor rendered obvious by the admitted prior art and Hartzell.

Dependent claims 2-6 are believed to be allowable as depending from what is believed to be allowable independent claim 1 for the reasons given above. Similarly, dependent claims 8-11 and 14-16 are believed to be allowable as depending from what is believed to be allowable independent claim 7 for the reasons given above. Additionally, claims 18-21 are believed to be allowable as depending from what is believed to be allowable independent claim 17 for the reasons given above. In addition, claims 2-6, 8-11, 14-16 and 18-21 recite further limitations that distinguish over the applied art. In conclusion, it is respectfully submitted that claims 1-11 and 14-21 are neither anticipated nor rendered obvious by the admitted prior art and Hartzell and are therefore allowable.

Allowable Subject Matter

The Examiner indicated that claims 22-27 are allowed. The Examiner further objected to claims 12-13 as being dependent upon a rejected base claim, but indicated that the claims would be allowable, if rewritten in independent form including all of the limitations of the base claim and any intervening claims. For the reasons set forth above, claim 7 is believed to be allowable. Therefore, dependent claims 12-13 are likewise believed to be allowable. Applicants

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appreciate the Examiner's Indication of allowable subject matter, but believe that all of the claims are allowable for the reasons given above.

CONCLUSION

Claims 1-27 are distinguishable over the prior art of record and are in condition for allowance.

Applicants request the entry of the present amendment and the withdrawal of the rejection of claims 1-27. A timely and favorable action is earnestly solicited.

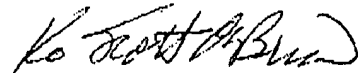
Should the Examiner have any questions with respect to any matter now of record, the Examiner is requested to contact the undersigned at the phone number listed below.

The Commissioner is authorized to charge any fees and credit any overpayments to the Deposit Account 50-1059.

Respectfully submitted,

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